

Amendments to the Specification:

Please replace the text at page 1, lines 4-9, with the following:

--This invention concerns biological microarray technology in general. In particular, it concerns a ~~nucleic~~nucleic acid microarray system comprising random distributed nucleic acid probe modified micro-spheres coated on a substrate that contained no designated sites prior to coating. The micro-spheres contain optical barcodes generated from one or more colorants associated with the micro-spheres.--

Please replace the text at page 3, lines 1-11, with the following:

--According to a feature of the present invention, there is provided a method of identifying nucleic acid samples comprising: providing a ~~microarray~~microarray including a substrate coated with a composition including a population of micro-spheres dispersed in a fluid containing a gelling agent or a precursor to a gelling agent and immobilized at random positions on the substrate, at least one sub-population of said population micro-spheres containing an optical barcode generated from at least one colorant associated with the micro-spheres and including a nucleic acid probe sequence; contacting said array with a target nucleic acid sequence; and detecting the color barcode of said sub-population of micro-spheres due to the interaction of said probe nucleic acid sequence and said target nucleic acid sequence.

Please replace the text at page 17, lines 6-12, with the following:

--EXAMPLE 5

This example illustrates the attachment of pre-synthesized single strand oligonucleotide probe to the surface of dye incorporated beads.

Three DNA oligonucleotide probe sequences and their complementary target sequences were used in this example as shown in Table 1.

Dyed Microsphere	Probe Sequence	Complementary Target Sequence
Dye 1	5' amino modification- AGGTGAACGTGGATGAAGTT 3'	5' biotin modification- AACTTCATCCACGTTTCAGCT 3'
Dye 2	5' amino modification- TGGGTTCTCTTCGCTGTTACTG 3'	5' biotin modification- CAGTAACAGCCAAAGAGAACCCA 3'
Dye 3	5' amino modification- AAGCTGTTAGCCGAGTAGCG 3'	5' biotin modification- CGCTACTCGGCTAAGAGCTT 3'

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